Homework 6

CMSY-199, Spring 2011

The source code and sample output for this assignment must be submitted electronically using the CE6 course website prior to the start of class on Monday, May 9.

There are 4 elevators available to take passengers up and down the floors of a 100 floor building. Each elevator can be `STOPPED`, `STOPPING`, `MOVING_UP`, or `MOVING_DOWN`. It takes an elevator 2 seconds of stopping to be stopped. It currently takes each elevator 10 seconds to move between each floor. There is a maximum of 8 passengers allowed on a single elevator.

Building tenants are complaining about the length of time they have to wait for elevators and the time it takes for them to get to their destination.

Implement a simulation, based on the set of start time, start floor, and end floor data from the Elevator.csv file, and determine the average wait time and the average travel time for the tenants.

A contractor has proposed to speedup the elevators from 10 seconds to 5 seconds between each floor for a fee of $50,000. Rerun the simulation with a time between each floor of 5 seconds to determine the percent reduction in average wait time and the percent reduction in average travel time for the tenants.